

a1
contd reproduced. Thus generated random numbers are referred to for determining which content data is to be reproduced now.

✓
Please replace the paragraph beginning on page 2, line 13 with the following rewritten paragraph:

a2
As a variation of random reproduction, shuffle reproduction is included. In shuffle reproduction, a plurality of content data recorded on a recording medium is randomly reproduced as in random reproduction. However, after being reproduced on a one-time basis, the content data is stored on a reproducing device side, and thus is not reproduced twice. This method is disclosed in Japanese Utility Model Laid-Open Publication No. 60-146989 (85-146989).

✓
Please replace the paragraph beginning on page 3, line 3 with the following rewritten paragraph:

a3
In such conventional methods, however, the reproduction frequency of content data is determined once and fixed, and thus is not changeable. Therefore, at random reproduction, users preferences for content data are hardly reflected in the reproduction frequency. Specifically, there is no concern for increasing the reproduction frequency of content data which has been currently recorded or reproduced many times.

✓
Please replace the paragraphs beginning on page 4, line 2 and ending on page 4, line 17 with the following rewritten paragraph:

a4
A first aspect of the present invention is directed to a recording medium for storing digital data to be read/updated by a data recording and reproducing device, the digital data comprising: a plurality of content data reproducible by the data recording and reproducing device; and reproduction control information used to determine the content data to be reproduced, wherein the reproduction control information includes reproduction sequence information which determines a reproduction order of the plurality of content data while the data recording and reproducing device performs normal reproduction, and reproduction frequency parameters each of which determines reproduction

artid
contd frequency of the content data while the data recording and reproducing device performs special reproduction, the reproduction frequency parameters being updatable.

Please replace the paragraphs beginning on page 4, line 22 and ending on page 4, line 25 with the following rewritten paragraph:

a5 According to a second aspect, in the first aspect, the reproduction frequency parameters are updated according to information relevant to the content data selected at normal reproduction.

Please replace the paragraph beginning on page 5, line 1 with the following rewritten paragraph:

a6 As described above, in the second aspect, the reproduction frequency parameters are updated based on information relevant to the content data selected at normal reproduction in the data recording and reproducing device, for example, when the content data was reproduced or how many times reproduced. Therefore, the reproduction frequency parameters can reflect the user preferences.

Please replace the paragraphs beginning on page 5, line 8 and ending on page 5, line 10 with the following rewritten paragraph:

a7 According to a third aspect, in the first aspect, the reproduction control information includes information about date and time when the content data is recorded.

Please replace the paragraphs beginning on page 5, line 15 and ending on page 5, line 17 with the following rewritten paragraph:

a8 According to a fourth aspect, in the first aspect, the reproduction control information includes information about the date and time when the content data was last reproduced.

✓

Please replace the paragraph beginning on page 5, line 18 with the following rewritten paragraph:

99 As described above, in the fourth aspect, provided is a recording medium which can change the reproduction frequency or order of content data at reproduction based on information about the date when the content data was last reproduced.

✓

Please replace the paragraphs beginning on page 5, line 22 and ending on page 5, line 24 with the following rewritten paragraph:

110 According to a fifth aspect, in the first aspect, the reproduction control information includes information about the number of times the content data has been reproduced.

✓

Please replace the paragraphs beginning on page 6, line 4 and ending on page 6, line 18 with the following rewritten paragraph:

111 A sixth aspect of the present invention is directed to a data recording and reproducing device for reproducing digital data to be read/updated in the recording medium of claim 1, the device comprising: a determination part operable to read the reproduction control information from the recording medium, and generate information used to determine which content data is to be reproduced based on one of the reproduction sequence information and the reproduction frequency parameters included in the read reproduction control information; a selection part operable to select which content data is to be reproduced based on the information generated by the determination part; and a reproduction part operable to read the content data selected by the selection part from the recording medium for reproduction.

Please replace the paragraphs beginning on page 6, line 23 and ending on page 7, line 5 with the following rewritten paragraph:

112 According to a seventh aspect, in the sixth aspect, the determination part generates, based on the read reproduction control information, reproduction frequency parameters which indicate a reproduction frequency while the content data is randomly reproduced, and the selection part

9/12
9/12/10
randomly selects which content data is to be reproduced in such a manner as to satisfy the reproduction frequency indicated by the reproduction frequency parameters.

Please replace the paragraphs beginning on page 7, line 10 and ending on page 7, line 16 with the following rewritten paragraph:

9/13
According to an eighth aspect, in the seventh aspect, the selection part comprises: a random number generator generating a random number; and a random number table for interrelating the random number with the content data, and is used to determine which content data is to be reproduced.

Please replace the paragraphs beginning on page 7, line 21 and ending on page 8, line 3 with the following rewritten paragraph:

9/14
According to a ninth aspect, in the sixth aspect, at normal reproduction, the determination part determines a reproduction order of the plurality of content data based on the reproduction sequence information in the read reproduction control information, and the selection part selects the content data for reproduction in the reproduction order determined by the determination part.

Please replace the paragraphs beginning on page 8, line 8 and ending on page 8, line 12 with the following rewritten paragraph:

9/15
According to a tenth aspect, in the sixth aspect, the data recording and reproducing device further comprises an update part operable to update the reproduction control information recorded on the recording medium by writing new reproduction control information thereon.

Please replace the paragraphs beginning on page 8, line 17 and ending on page 8, line 20 with the following rewritten paragraph:

9/16
According to an eleventh aspect, in the tenth aspect, the update part updates the reproduction control information on the recording medium based on information relevant to the content data selected at normal reproduction.

Please replace the paragraphs beginning on page 9, line 1 and ending on page 9, line 5 with the following rewritten paragraph:

917
According to a twelfth aspect, in the sixth aspect, the determination part includes a timer generating time information, and determines a reproduction frequency for each of the content data by using the time information generated by the timer.

Please replace the paragraphs beginning on page 9, line 10 and ending on page 10, line 21 with the following rewritten paragraph:

918
A thirteenth aspect of the present invention is directed to a reproduction control information collection system in which an information provider collects reproduction control information about a reproduction frequency of a content reproduced by a user for sale to a content merchandiser, and rewards the user with a bonus for the reproduction control information, the system comprising: a user system provided on the user side; an information provider's system provided on the information provider side; and a content merchandiser system provided on the content merchandiser side, wherein: the user's system, the information provider's system, and the merchandiser's system are interconnected with one another via a network for information exchange; the user's system transmits the user's reproduction control information over the network; the information provider's system receives the user's reproduction control information which came from the user's system, and transmits, over the network, the information together with an ID uniquely corresponds to the user to the content merchandiser's system; in response to the reproduction control information and the ID provided by the information provider's system, the content merchandiser's system issues a password which uniquely corresponds to the ID, and transmits the password to the information provider's system over the network, the information provider's system transmits the password and the ID provided by the content merchandiser's system to the user's system over the network; the user's system presents the ID and the password provided by the information provider's system to the content merchandiser's system over the network, and asks for the bonus; and the content merchandiser's system identifies the user with the presented ID and password, and provides the bonus to the identified user.

✓

Please replace the paragraphs beginning on page 11, line 9 and ending on page 12, line 10 with the following rewritten paragraph:

919
According to a fourteenth aspect, in the thirteenth aspect, the user's system comprises: a communications part operable to communicate with the information provider's system and the content merchandiser's system via the network; and a reproduction control information management part operable to manage the user's reproduction control information for transmission to the information provider's system via the communications part with a predetermined timing, the information provider's system comprises: a communications part operable to communicate with the user's system and the content merchandiser's system via the network; a user's information management part operable to manage information about the user in addition to the ID; and a reproduction control information database for interrelating the reproduction control information, the ID, and any corresponding content with one another for storage, and the content merchandiser's system comprises: a communications part operable to communicate with the information provider's system and the user's system via the network; a bonus offer part operable to provide the bonus to the user's system via the communications part; and a password management part operable to issue and manage the password, and authenticating a correspondence between the ID and the password presented by the user system.

Please replace the paragraph beginning on page 16, line 2 with the following rewritten paragraph:

920
The content data recording date information 22a indicates when the corresponding content data was recorded on the recording medium 100. The content data latest reproduction date information 22b indicates when the corresponding content data was last reproduced. The content data reproduction count information 22c indicates how many times the corresponding content data has been so far reproduced after being recorded on the recording medium 100. Here, the reproduction frequency indirect factor 22 does not necessarily include the above three pieces of information, and may include at least one or more pieces of information relevant to the content data. The date indicated by the above information typically includes day, month, and year, but may not necessarily include all of them, or may additionally include time.

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Please replace the paragraph beginning on page 16, line 23 with the following rewritten paragraph:

a21
In FIG. 3, the reproduction frequency direct factor 23 includes frequency values 23a, 23b, and 23c, respectively corresponding to the reproduction frequency information 1, 2, and 3. In other words, the reproduction frequency direct factor 23 includes three frequency values each having a one-to-one relationship with the reproduction frequency information. This means the data recording and reproducing device (later described) can perform random reproduction with three different reproduction frequencies. Here, the number of values included in the reproduction frequency direct factor 23 is not restrictive, and one value is sufficient.

Please replace the paragraph beginning on page 17, line 9 with the following rewritten paragraph:

a22
Referring back to FIG. 1, the index storage region 30 stores information (e.g., recording address) referred to by the data recording and reproducing device when fetching the content data in the content data storage region 10 and the reproduction control information in the reproduction control information storage region 20. In this embodiment, presumably, the index information storage region 30 stores information required by a FAT (File Allocation Table) file system, which controls the recording address. Here, the FAT file system is not restrictive, and may be other types of file system such as UDF (Universal Disk Format), or no file system for managing the recording addresses.

Please replace the paragraph beginning on page 18, line 9 with the following rewritten paragraph:

a23
In FIG. 4, the data recording and reproducing device 200 is provided with a reproduction frequency determination part 50, a content data selection part 60, and a reproduction part 70. The reproduction frequency determination part 50 reads the reproduction control information in the reproduction control information storage region 20 on the recording medium 100. Based on the reproduction control information read thereby, the reproduction frequency determination part 50

Q23
content

determines the reproduction frequency of the content data in the content data storage region 10. By referring to the determined reproduction frequency, the content data selection part 60 randomly selects the content data to be reproduced. The reproduction part 70 reproduces the selected content data.

Please replace the paragraph beginning on page 19, line 21 with the following rewritten paragraph:

Q24

Here, the data recording and reproducing device 200 may be additionally provided with a reproduction control information update part 80. The reproduction control information update part 80 updates the reproduction control information, which reflects the popularity of the content data. If this is the case, the reproduction control information corresponding to the content data reproduced in the data recording and reproducing device 200 is updated as required. For example, as for the reproduction control information, the reproduction control information update part 80 updates the reproduction date, the reproduction count, and the like, every time the corresponding content data is reproduced, or after every instance in which the content data is thoroughly reproduced. Preferably, the reproduction control information update part 80 performs such update only at normal reproduction. This is because the user's preferences for content data is reflected in normal reproduction. Surely, the reproduction control information update part 80 may perform such update both at normal and special reproduction.

Please replace the paragraph beginning on page 20, line 21 with the following rewritten paragraph:

Q25

The content data selection part 60 includes a random number generator 61 and a random number table 62, which shows the correspondence between the random numbers and content data. The reproduction part 70 includes a decoder 71, a DA converter 72, and a speaker 73. Herein, the speaker 73 may be exemplarily implemented by a headphone being externally connected to the reproduction part 70 via an audio output terminal.

✓
Please replace the paragraph beginning on page 21, line 3 with the following rewritten paragraph:

A26
Described in detail next is the operation of the data recording and reproducing device 200 component-wise. First, the reproduction frequency determination part 50 reads the reproduction control information in the reproduction control information storage region 20 on the recording medium 100. Determined based thereon is the reproduction frequency of each content data in the content data storage region 10.

✓
Please replace the paragraph beginning on page 23, line 4 with the following rewritten paragraph:

A27
In step S504, the reproduction frequency information generation unit 52 receives, from the reproduction control information read unit 51, the content data recording date information 22a of M content data. Shown in FIG. 6 is the received exemplary data.

✓
Please replace the paragraph beginning on page 2³, line 2³ with the following rewritten paragraph:

A28
In step S507, the reproduction frequency information generation unit 52 calculates the reproduction frequency for each content data with the following equation (1). Here, it is necessary to satisfy $1 \leq i \leq M$, and a maximum value obtainable by the equation (1) for the reproduction frequency should be an integer not more than the value.

Please replace the paragraph beginning on page 24, line 4 with the following rewritten paragraph:

A29
In the above equation (1), the weighting reference value is a parameter determining influence of the content data recording date information 22a on the reproduction frequency value, and is nonnegative in value. The larger the weighting reference value, the more apparent the influence of the content data recording date information 22a on the reproduction frequency value becomes. The

A29
contd

minimum frequency value is assigned equally to M content data to be reproduced, and is nonnegative in value. The minimum frequency value may surely be 0.

Please replace the paragraph beginning on page 28, line 9 with the following rewritten paragraph:

A30

In step S1102, the content data selection part 60 then makes use of the fetched reproduction frequency information to generate the random number table 62. Here, there needs to concern a characteristic of the random number generator 61, i.e., which value is generated in which probability. In this example, the random generator 61 is presumed to generate nonnegative integers (0 to RANDMAX) with the same probability, and RANDMAX should be large enough.

Please replace the paragraph beginning on page 28, line 24 with the following rewritten paragraph:

A31

In step S1103, the content data selection part 60 fetches any random number being a positive integer from the random number generator 61. In step S1104, the content data selection part 60 then refers to the random number table 62 for comparison with the fetched random number, and then selects content data for reproduction. In the case of using the random number table 62 of FIG. 9, the fetched random number is not always in the range of 0 to 207. Therefore, a random number fetched in step S1103 is once divided by 208, and the calculated remainder is used. By referring to FIG. 9, when the remainder is 59, the content data #2 is selected, and when 203, the content data #5. In such manner, the content data is selected to be reproduced.

Please replace the paragraph beginning on page 29, line 11 with the following rewritten paragraph:

A32

The reproduction part 70 in FIG. 4 reproduces such selected content data. The selected content data (here, MP3 music data) becomes audible from the speaker 73 after being decoded by the decoder 71, and then D/A converted by the DA converter 72.

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Please replace the paragraph beginning on page 29, line 20 with the following rewritten paragraph:

A33
Herein, the audio player which records and reproduces data exemplarily implementing the data recording and reproducing device 200 in the above is not restrictive, and any data recording and reproducing device will do as long as digital data can be recorded and reproduced therein. As for the recording medium 100, as already described above, any will do as long as it is rewritable.

✓

Please replace the paragraph beginning on page 30, line 7 with the following rewritten paragraph:

A34
In FIG. 12, the data recording and reproducing device 210 is provided with a reproduction order determination part 500, a content data selection part 600, and the reproduction part 70. The reproduction order determination part 500 reads the reproduction control information, and then determines the order of the content data for reproduction. By referring to the determined reproduction order, the content data selection part 600 selects the content data. In this embodiment, the reproduction part 70 and the reproduction control information update part 80 are identical to those in the data recording and reproducing device 200 of FIG. 4, and thus are under the same reference numerals and not described again.

Please replace the paragraph beginning on page 30, line 19 with the following rewritten paragraph:

A35
The reproduction order determination part 500 in the data recording and reproducing device 210 includes the reproduction control information read unit 51, a reproduction order information generation unit 520, and a reproduction order information storage unit 530. In this embodiment, the reproduction control information read unit 51 and the timer 54 are identical to those in the reproduction frequency determination part 50 of FIG. 4, and thus are under the same reference numerals and not described again.

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Please replace the paragraph beginning on page 32, line 7 with the following rewritten paragraph:

A36
Steps S601 to S605 in FIG. 13 are exactly the same as steps S501 to S505 in FIG. 5, respectively, and are not described again. In step S606 in FIG. 13, the reproduction order information generation unit 520 sorts the number of days since the reference date represented by T1 to TM in FIG. 7 in an ascending or descending numeric order so as to number.

✓

Please replace the paragraph beginning on page 32, line 23 with the following rewritten paragraph:

A37
In step S609, the reproduction order information generation unit 520 stores the generated data in the reproduction order information storage unit 530 as the reproduction order information.

✓

Please replace the paragraph beginning on page 34, line 7 with the following rewritten paragraph:

A38
Next, the content data selection part 600 in FIG. 12 sequentially selects the content data to be reproduced based on the reproduction order information determined by the reproduction order determination part 500. The content data selection part 60 then reproduces the selected content data.

✓

Please replace the paragraph beginning on page 34, line 16 with the following rewritten paragraph:

A39
Note that, the above embodiment is no more than a system example which is expected to achieve optimal results under the present circumstances. Therefore, numerous other modifications and variations can be devised without departing from the scope of the invention. For example, as is the data recording and reproducing device 200, the data recording and reproducing device 210 may be any type as long as digital data can be recorded and reproduced therein. As for the recording medium 100, as already described above, any will do as long as it is rewritable.

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Please replace the paragraph beginning on page 35, line 23 with the following rewritten paragraph:

A40
In step S1 of FIG. 14, a content merchandiser sells content data such as music to a user. The sold content data is transmitted from the content merchandiser's system 3000 to the user's system 1000. Here, such on-line distribution is not restrictive, and the content data may be recorded on a recording medium and distributed in stores, for example.

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Please replace the paragraph beginning on page 36, line 13 with the following rewritten paragraph:

A41
In step S3, in response to the user membership application, the information provider issues a membership ID uniquely for the user. To be specific, the information provider system 2000 refers to the received membership information, and then transmits the user membership ID to the user's system 1000 by e-mail, for example. Surely, such on-line notification is not restrictive, and the user may be notified about his/her membership ID by mail or phone, for example.

✓

Please replace the paragraph beginning on page 36, line 21 with the following rewritten paragraph:

A42
In step S4, the user provides the information provider, after a predetermined time interval, for example, with his/her reproduction control information about the content data he/she bought. Specifically, such reproduction control information is transmitted from the user's system 1000 to the information provider's system 2000 after an arbitrary time interval. As such, the information provider system 2000 collects users' reproduction control information, and if the content merchandisers plurally exist, classifies the information according to the content merchandiser for storage.

Please replace the paragraph beginning on page 37, line 21 with the following rewritten paragraph:

A43
In step S7, the content merchandiser notifies the information provider about a password for bonus together with the user's membership ID. To be specific, the content merchandiser's system

A43
Contd

3000 creates a password to allow only the applicable user to receive the bonus, and then transmits the password together with the user's membership ID to the information provider's system 2000. Here, the password may be created by the information provider, and then is notified to the content provider together with the corresponding ID.

Please replace the paragraph beginning on page 38, line 21 with the following rewritten paragraph:

A44

In step S10, in response to the notified membership ID and password, the information provider authenticates the user's identity. If confirmed, the information provider offers the bonus to the user. Specifically, the information provider's system 2000 authenticates the membership ID and password provided by the user's system 1000 whether the user can be authenticated. If the user's identity is confirmed, the bonus is transmitted. Here, the bonus may vary to free or sample content data, discount or privilege, a point exchangeable with merchandise or service depending on how many, or information about new content data, anything is possible as long as the bonus attracts the users well enough.

Please replace the paragraph beginning on page 39, line 12 with the following rewritten paragraph:

A45

In FIG. 15, the user's system 1000 includes the recording medium 100 of the first embodiment, a reproduction control information management part 1002 for managing the reproduction control information recorded on the recording medium 100, and a communications part 1001 for external communications. The information provider's system 2000 includes a communications part 2001 for external communications, a user's information management part 2002 for managing information about users, and a reproduction control information database 2003 for storing the user's reproduction control information. As for the content merchandiser's system 3000, included are a communications part 3001 for external communications, a content offer part 3002 for offering content data at cost to the user, a password management part 3003 for managing a password corresponds to the user's ID, and a bonus offer part 3004 for offering a bonus for the user. These

A45
Cont'd

systems are interconnected with one another via a communications network, typically the Internet. Next, the operation of the system is described component-wise.

Please replace the paragraph beginning on page 41, line 9 with the following rewritten paragraph:

A46

In the information provider's system 2000, the communications part 2001 is identical in structure and operation to the communications part 1001. The user's information management part 2002 manages various types of information (e.g., user personalized information, ID) that came from the user's system 1000 via the communications part 2001, information such as password provided by the content merchandiser's system 3000, and the like. The user's information management part 2002 manages the user's reproduction control information, and provides the information to the reproduction control information database 2003. In the reproduction control information database 2003, created and stored is a database having interrelated the reproduction control information, membership ID, type and title of the content data, the merchandiser, and the like. Such stored reproduction control information is classified according to the content merchandiser, and is transmitted to the information provider's systems including the information provider's system 2000.

Please replace the paragraph beginning on page 42, line 19 with the following rewritten paragraph:

A47

The password management part 3003 generates, stores, and manages a password uniquely corresponding to the user ID. In the case that the information provider's system 2000 is the one which generates such password, the password management part 3003 receives and manages the password. The bonus offer part 3004 offers a bonus responding to the user's request. To be specific, the bonus offer part 3004 receives the user's ID and password, and inquires the password management part 3003 whether the password is the correct one. The password management part 3004 decides whether the user's request for the bonus is valid by referring to the correspondence between the ID and password. If the user's password is determined as being correct, the bonus offer part 3004 transmits the bonus predetermined for the ID, or increases the user's point, for example.